

ABSTRACT

A mechanism to support remote mirroring of storage devices by data storage systems in a one-to-many switched environment. Each data storage system includes a disk director that is adapted to control at least one device group that is supported in a mirrored configuration with a corresponding device group controlled by one of the other data storage systems. For each device group and corresponding device group, there are first ports associated with the device group and second ports associated with the corresponding device group. A switch element is adapted to connect one of the first ports to at least one of the second ports so that data may be exchanged between the ports for each device group and corresponding device group. The disk director selects which first port is to be connected to which second port via the switch element in the establishment of a logical link. Thus, each port connected to the switch is capable of achieving multiple connections to multiple destinations for increased connectivity, redundancy and performance (load balance) without additional hardware.